

We claim:

1. An expandable framework adapted to move between an expanded state for supporting a canopy covering above a support surface and a collapsed state for storage, comprising:

(A) a plurality of upright support members each having a bottom end portion positionable on the support surface and a top end portion opposite the bottom end, said support members being oriented alongside one another in the collapsed state and spaced apart from one another when in the expanded state;

(B) upper and lower mounts disposed on each corner support member, at least some of said upper and lower mounts including a lobe having outwardly facing, spaced-apart and substantially parallel sidewalls;

(C) a plurality of edge scissor assemblies with there being an edge scissor assembly interconnecting peripherally adjacent ones of said corner support members, each edge scissor assembly including a pair of outer upper ends and a pair of outer lower ends, said edge scissor assemblies operative to open and close whereby said expandable framework may move between the expanded and collapsed states, at least some of said outer upper ends and said outer lower ends provided with a socket fitting including spaced apart portions that are spaced apart from one another to define a channel opening therebetween that is adapted to mateably engage a respective said lobe in close-fitted engagement, and with at least one of said portions having a substantially flat face thereby to form sliding contact surface with the respective said lobe; and

(D) a fastener securing each said lobe for pivotal movement in the respective said socket fitting.

2. An expandable framework according to claim 1 wherein said socket fittings each include first and second arm portions extending for a length and having substantially parallel opposed face portions defining the channel opening, said first and second arm portion adapted to receive the respective said lobe therebetween with each of the face portions forming sliding contact surfaces with the respective said lobe.

3. An expandable framework according to claim 1 wherein a pair of upper and lower mounts are disposed on each of said upright support members, one of said pair being a stationary mount and another of said pair being a slide mount slideably secured to said upright support member and movable therealong between locations proximate to and remote from said stationary mount when the respective said edge scissor assembly opens and closes.

4. An expandable framework according to claim 3 wherein said upper mount in each pair is the stationary mount.

5. An expandable framework according to claim 3 including a latch element associated with each of said upright support members, said latch operative to latch the respective said slide mount in the location proximate to the respective said stationary mount.

6. An expandable framework according to claim 1 including a roof support assembly supported above the support surface by said upright support members when in the expanded state, said roof support assembly operative to support said canopy covering.

7. An expandable framework according to claim 6 wherein said roof support assembly includes a plurality of roof support members pivotally connected to one another at proximate ends thereof to form an apex and extending generally

radially outwardly from one another when in the expanded state, each roof support member pivotally connected at a distal end thereof to one of said mounts on a respective upright support member.

8. An expandable framework according to claim 6 wherein each said roof support member includes a pair of extendable sections movable between a retracted state when said framework structure is in the collapsed state and an extended state when said framework structure is in the expanded state.

9. An expandable framework according to claim 8 wherein each said roof support member includes a roof latch element associated therewith operative to retain the extendable sections thereof in the extended state.

10. An expandable framework according to claim 8 wherein said extendable sections telescope with respect to one another.

11. An expandable framework according to claim 8 wherein said extendable sections fold with respect to one another.

12. An expandable framework according to claim 7 including an apex cap member centrally disposed with respect to said framework structure, the proximate ends of said roof support members being pivotally secured to said apex cap member.

13. An expandable framework according to claim 7 wherein a pair of upper and lower mounts are disposed on each of said upright support members, one of said pair being a stationary mount and another of said pair being a slide mount slideably secured to said upright support member and movable therealong between locations proximate to and remote from said stationary mount when the respective said edge scissor assembly opens and closes and wherein each said roof support member is pivotally connected to a respective stationary mount and including a

cantilever section pivotally connected at a first cantilever end to said roof support member and at a second cantilever end to said slide mount on the respective said upright support member.

14. An expandable framework according to claim 6 wherein said roof support assembly includes at least one central scissor assembly.

15. An expandable framework according to claim 1 wherein each said edge scissor assembly includes a pair of scissor units connected at upper and lower inner ends thereof in end-to-end relation.

16. An expandable framework according to claim 15 including an upper center fitting interconnecting the upper inner ends of said scissor units together and a lower center fitting interconnecting the lower inner ends of said scissor unit together, each of said upper and lower center fittings including oppositely projecting fitting lobes, said upper and lower inner ends of said scissor units being provided with a socket fitting including spaced apart first and second arm portions having substantially parallel opposed face portions defining a channel opening therebetween that are adapted to mateably receive a respective said fitting lobe of a respective said upper and lower center fittings in close-fitted engagement thereby to form sliding contact surfaces therewith.

17. An expandable framework according to claim 1 wherein said edge scissor assemblies are constructed by at least one pair of scissor bars pivotally connected to one another.

18. An expandable framework according to claim 1 wherein said scissor bars are tubular members having a cross-section selected from a group consisting of ovals, circles, squares and rectangles.

19. An expandable framework according to claim 1 wherein said socket fittings include a web portion extending between said first and second arm portions for at least a portion of the length thereof.

20. An expandable framework according to claim 1 wherein said lobe is T-shaped in cross-section so as to have a blade portion that can be matably engaged in the channel of a respective socket fitting and a reinforcing web extending transversely of said blade portion.

21. An expandable framework according to claim 1 wherein at least some of said mounts have a plurality of lobes disposed thereon and including a connector web extending therebetween.

22. An expandable canopy adapted to be erected on a support surface, comprising:

(A) a framework adapted to rest on a support surface and adapted to move between an expanded state for use and a collapsed state for storage, said framework including:

(1) a plurality of upright support members each having a bottom end portion positionable on the support surface and a top end portion opposite the bottom end, said support members being oriented alongside one another in the collapsed state and spaced apart from one another when in the expanded state;

(2) upper and lower mounts disposed on each corner support member, at least some of said upper and lower mounts including a lobe having outwardly facing, spaced-apart and substantially parallel sidewalls;

(3) a plurality of edge scissor assemblies with there being an edge scissor assembly interconnecting peripherally adjacent ones of said corner

support members, each edge scissor assembly including a pair of outer upper ends and a pair of outer lower ends, said edge scissor assemblies operative to open and close whereby said expandable framework may move between the expanded and collapsed states, at least some of said outer upper ends and said outer lower ends provided with a socket fitting including spaced apart portions that are spaced apart from one another to define a channel opening therebetween that is adapted to mateably engage a respective said lobe in close-fitted engagement, and with at least one of said portions having a substantially flat face thereby to form sliding contact surface with the respective said lobe,

(4) a fastener securing each said lobe for pivotal movement in the respective said socket fitting, and

(5) a roof support assembly supported above the support surface by said upright support members when said framework is in the expanded state; and

(B) a canopy covering sized and adapted to extend across said framework and be supported by said roof support assembly when said framework is in the expanded state.

23. An expandable framework according to claim 22 wherein said socket fittings each include first and second arm portions extending for a length and having substantially parallel opposed face portions defining the channel opening, said first and second arm portion adapted to receive the respective said lobe therebetween with each of the face portions forming sliding contact surfaces with the respective said lobe.

24. An expandable framework according to claim 22 wherein a pair of upper and lower mounts are disposed on each of said upright support members, one of said pair being a stationary mount and another of said pair being a slide mount slideably secured to said upright support member and movable therealong between locations proximate to and remote from said stationary mount when the respective said edge scissor assembly opens and closes.

25. An expandable framework according to claim 24 wherein said upper mount in each pair is the stationary mount.

26. An expandable framework according to claim 24 including a latch element associated with each of said upright support members, said latch operative to latch the respective said slide mount in the location proximate to the respective said stationary mount.

27. An expandable framework according to claim 22 wherein said roof support assembly includes a plurality of roof support members pivotally connected to one another at proximate ends thereof to form an apex and extending generally radially outwardly from one another when in the expanded state, each roof support member pivotally connected at a distal end thereof to one of said mounts on a respective upright support member.

28. An expandable framework according to claim 22 wherein each said roof support member includes a pair of extendable sections movable between a retracted state when said framework structure is in the collapsed state and an extended state when said framework structure is in the expanded state.

29. An expandable framework according to claim 22 wherein said roof support assembly includes at least one central scissor assembly.

30. An expandable framework according to claim 22 wherein each said edge scissor assembly includes a pair of scissor units connected at upper and lower inner ends thereof in end-to-end relation.

31. An expandable framework according to claim 30 including an upper center fitting interconnecting the upper inner ends of said scissor units together and a lower center fitting interconnecting the lower inner ends of said scissor unit together, each of said upper and lower center fittings including oppositely projecting fitting lobes, said upper and lower inner ends of said scissor units being provided with a socket fitting including spaced apart first and second wall portions having substantially parallel opposed face portions defining a channel opening therebetween that are adapted to mateably receive a respective said fitting lobe of a respective said upper and lower center fittings in close-fitted engagement thereby to form sliding contact surfaces therewith.

32. An expandable framework according to claim 22 wherein said socket fittings include a web portion extending between said first and second arm portions for at least a portion of the length thereof.

33. An expandable framework according to claim 22 wherein said lobe is T-shaped in cross-section so as to have a blade portion matably received in the channel of a respective socket fitting and a reinforcing web extending transversely of said blade portion.

34. An expandable framework according to claim 22 wherein at least some of said mounts have a plurality of lobes disposed thereon and including a connector web extending therebetween.

35. An expandable framework according to claim 22 wherein said edge scissor assemblies are constructed by at least one pair of scissor bars pivotally

connected to one another, and wherein said scissor bars are tubular members having an oval cross-section.

36. An expandable framework according to claim 22 including at least one side panel adapted to be supported by said framework.